

描述 / Descriptions

SOT-23 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a SOT-23 Plastic Package.

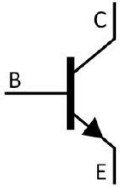
特征 / Features

E-B 反向击穿电压高，反向放大高，导通电阻低。
High V_{EBO} , high reverse h_{FE} , low on resistance.

用途 / Applications

用于音频静音电路
Audio muting application.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN 1 : Base PIN 2 : Emitter PIN 3 : Collector

放大及印章代码 / h_{FE} Classifications & Marking

| | |
|----------------|---------|
| h_{FE} Range | 200~800 |
| Marking | HMAX |

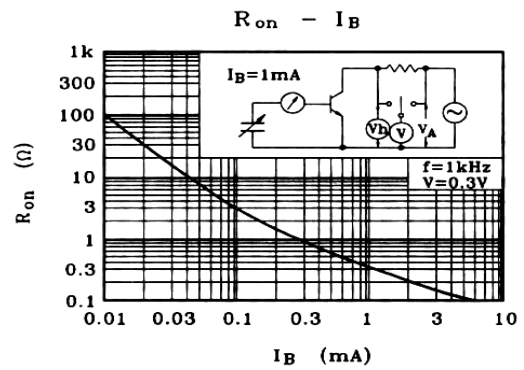
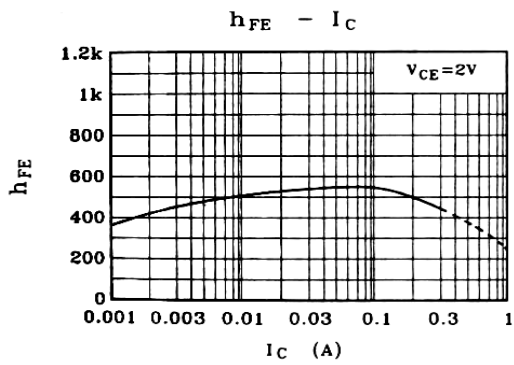
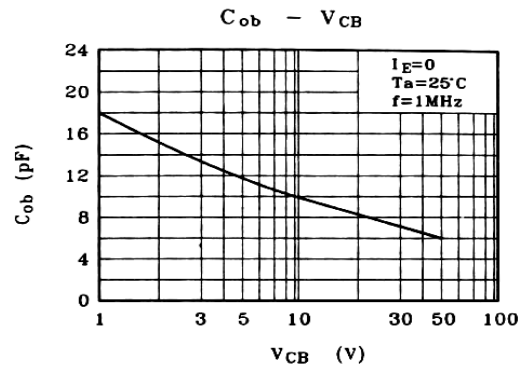
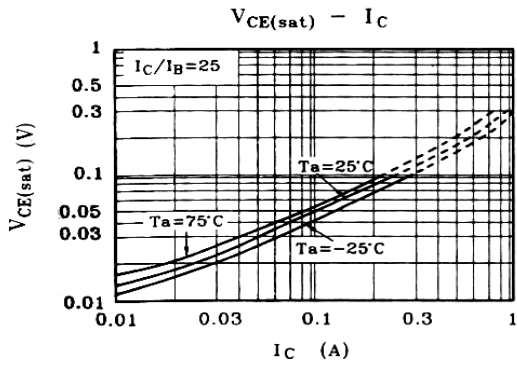
极限参数 / Absolute Maximum Ratings(Ta=25°C)

| 参数 Parameter | 符号 Symbol | 数值 Rating | 单位 Unit |
|------------------------------|--------------|--------------|------------|
| Collector to Base Voltage | V_{CBO} | 25 | V |
| Collector to Emitter Voltage | V_{CEO} | 20 | V |
| Emitter to Base Voltage | V_{EBO} | 12 | V |
| Collector Current | I_C | 300 | mA |
| Base Current | I_B | 30 | mA |
| Collector Power Dissipation | P_C | 200 | mW |
| Junction Temperature | T_j | 150 | °C |
| Storage Temperature Range | T_{stg} | -55~150 | °C |

电性能参数 / Electrical Characteristics(Ta=25°C)

| 参数 Parameter | 符号 Symbol | 测试条件 Test Conditions | 最小值 Min | 典型值 Typ | 最大值 Max | 单位 Unit |
|---|---------------|--------------------------------------|------------|------------|------------|------------|
| Collector Cut-Off Current | I_{CBO} | $V_{CB}=25V$ $I_E=0$ | | | 0.1 | μA |
| Emitter Cut-Off Current | I_{EBO} | $V_{EB}=12V$ $I_C=0$ | | | 0.1 | μA |
| DC Current Gain | h_{FE} | $V_{CE}=2.0V$ $I_C=4.0mA$ | 200 | | 800 | |
| DC Current Gain (Rev) | $h_{FE(Rev)}$ | $V_{CE}=-2.0V$ $I_C=-4.0mA$ | 20 | | | |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=100mA$ $I_B=10mA$ | | | 0.25 | V |
| Base to Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=100mA$ $I_B=10mA$ | | | 1.0 | V |
| Transition Frequency | f_T | $V_{CE}=10V$ $I_C=1.0mA$ | | 60 | | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB}=10V$ $f=1.0MHz$ $I_E=0$ | | 10 | | pF |
| On Resistor | R_{on} | $f=1.0KHz$ $V_{in}=0.3V$ $I_B=1.0mA$ | | 0.6 | | Ω |

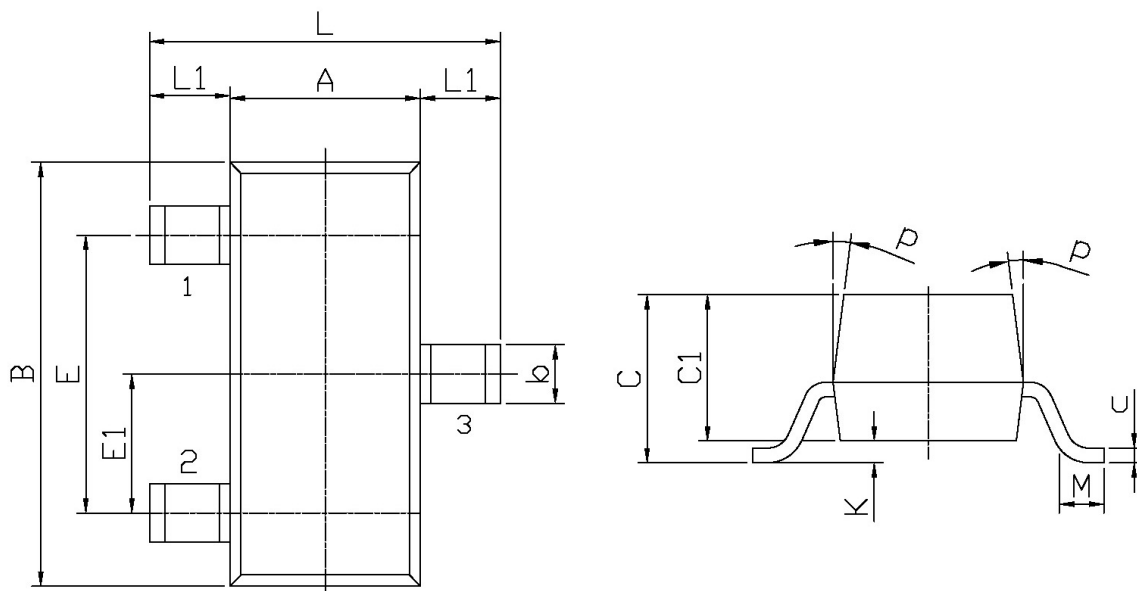
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

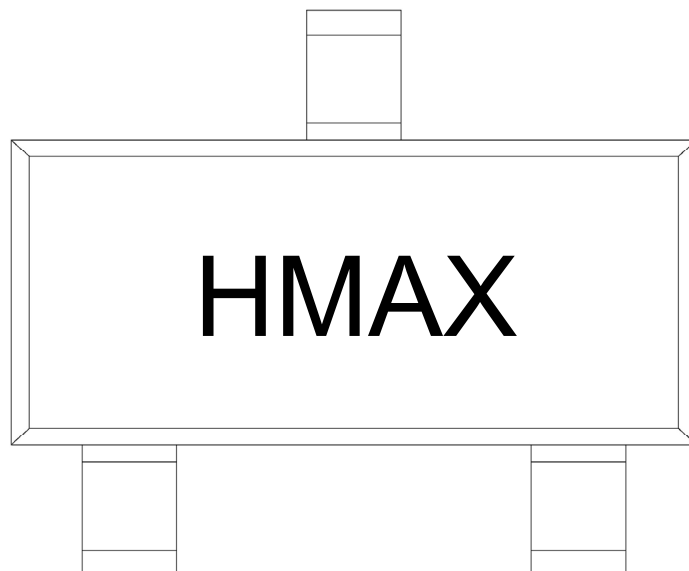
SOT-23

单位: mm



| Symbol | Dimensions In Millimeters | | Symbol | Dimensions In Millimeters | |
|--------|---------------------------|------|--------|---------------------------|------|
| | Min | Max | | Min | Max |
| L | 2.2 | 2.7 | C | 1.30Max | |
| L1 | 0.45 | 0.65 | C1 | 0.90 | 1.20 |
| A | 1.15 | 1.50 | c | 0.05 | 0.20 |
| B | 2.70 | 3.10 | K | 0 | 0.10 |
| E | 1.70 | 2.10 | M | 0.20MIN | |
| E1 | 0.85 | 1.05 | P | 7° | |
| b | 0.35 | 0.55 | | | |

印章说明 / Marking Instructions



说明：

H： 为公司代码

MAX： 为型号代码

Note:

H： Company Code

MAX： Product Type Code

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

- 1、预热温度 25 ~ 150°C，时间 60 ~ 90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:25~150°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

| Package Type 封装形式 | Units 包装数量 | | | | | Dimension 包装尺寸 (unit: mm ³) | | |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|---|-------------|-------------|
| | Units/Reel 只/卷盘 | Reels/Inner Box 卷盘/盒 | Units/Inner Box 只/盒 | Inner Boxes/Outer Box 盒/箱 | Units/Outer Box 只/箱 | Reel | Inner Box 盒 | Outer Box 箱 |
| SOT-23 | 3,000 | 10 | 30,000 | 6 | 180,000 | 7" ×8 | 180×120×180 | 390×385×205 |

使用说明 / Notices